



**Draft Evaluation of Storm Water Data Reports
for Fiscal Year 2016/2017**

April 2017

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List of Abbreviations

AR	Annual Report
BMP	best management practice
CR	Central Region
DPP	design pollution prevention
FY	fiscal year
NPDES	National Pollutant Discharge Elimination System
NR	North Region
PAED	Project Approval/Environmental Document
PD-SWAT	Project Development- Stormwater Advisory Team
PID	Project Initiation Document
PPDG	Project Planning and Design Guide
PS&E	Plans, Specifications, and Estimates
SWDR	Stormwater Data Report
SWMP	Storm Water Management Plan
TBMP	Treatment BMP

1. Background – Permit Requirements to Prepare this Report

Caltrans NPDES Permit (ORDER NO. 2012-0011-DWQ) dated September 19, 2012 orders the Department to prepare an Annual Report (AR) (E.30). The AR section of the Permit requires an evaluation of project planning and design be conducted during the year (E.3.a.7).

The Permit also requires Caltrans implement an effective Storm Water Management Plan (SWMP) and includes a project planning and design section (E.1.b) that Caltrans must follow.

Caltrans latest SWMP is dated July 2016 and complies with the latest Caltrans NPDES Permit. Section 5 of the SWMP includes the project planning and design process Caltrans must follow.

Caltrans Project Planning and Design Guide (PPDG) supports the SWMP in project planning and design activities. Section 2.1 Introduction to Design Program Responsibilities supports a program evaluation process that provides continuous improvement by performing design compliance monitoring of statewide Stormwater Data Reports (SWDRs). Stormwater Design assesses district incorporation of stormwater quality management features into project planning and design by preparing an Evaluation of SWDRs for each fiscal year (FY). In order for Caltrans to be in compliance with its NPDES Permit this report is attached to the AR.

2. History of Previous Years Doing Evaluation of Statewide SWDRs

Caltrans previous NPDES Permit (ORDER NO. 99-06-DWQ) dated July 15, 1999 required an AR, self-audit process included in the AR, and implementation of SWMP.

Caltrans first approved SWMP was dated May 2003. Section 8.4 was dedicated to the self-audit process. Section 8.4.3 included the Design Compliance Monitoring process. The key elements were:

- Project Planning and Design Checklists;
- Compliance monitoring and reporting protocol;
- Feedback and program improvement; and
- Annual reporting.

In order to meet the Design Compliance Monitoring process Caltrans prepared an Evaluation of Statewide SWDRs for each fiscal year and attached this report to the AR. Caltrans has been preparing this report since the approval of the May 2003 SWMP to meet the self-audit process of Caltrans previous NPDES Permit.

The Evaluation of Statewide SWDRs evaluated individual SWDRs from each District for completeness, accuracy and compliance with published Department Stormwater Guidance documents. The results of the report were used to identify training needs and adapt guidance as necessary to implement the Design Stormwater program. The overall quality of the reports reviewed was consistently good.

3. Why Caltrans Decided to Do the Report Differently this Year

Past years Statewide SWDR Evaluation consistently resulted in only minor guidance and training changes indicating the overall quality of SWDRs received was uniformly good over a period of several years.

For the FY 2016-2017 Design Evaluation a different metric was chosen for testing to identify other areas of the Design Stormwater Program that could be made more effective.

The PD-SWAT meeting June 1, 2016 decided to focus the FY 2016-2017 Compliance Report on the SWDRs received compared to the active Caltrans projects requiring SWDRs. Caltrans guidance requires that SWDRs be prepared for all projects delivered through Office Engineer at each project phase (PID, PAED, and PSE). A PD-SWAT subcommittee was established to develop a method to test whether SWDRs required were being completed.

4. Subcommittee Recommendations and New Methodology for this Report

The subcommittee consisted of PD-SWAT members from North Region (NR), Central Region (CR), and District 12. Three meetings were held to come up with a strategy. After reviewing the report and Caltrans compliance monitoring program the following recommendations were presented at the PD-SWAT meeting held on November 16, 2016:

- Previous SWDR compliance reviews and information provided in the report (Evaluation of SWDRs) showed that the SWDR process was working and Stormwater Design should review other aspects of our program.
- The audit process should focus on the question “Does every project have a signed SWDR at every phase (excluding emergency projects)”?
- This new audit process should help Districts better track SWDRs that are completed, and
- Possibly update Section 6.1 of the PPDG regarding projects that don’t require a SWDR.

The following methodology was developed by the subcommittee and presented at the November 16, 2016 PD-SWAT meeting:

- Use Caltrans PRSM project data and Caltrans Stormwater Design Monthly SWDR Spreadsheet data to determine if the above question could be answered
- Use Major projects only to develop process and prove concept. (Minor A and B projects including service contracts are not being reviewed at this time)
- Use Authorized projects only
- Use Approved Projects List only
- Use FY 15/16 projects
- Use milestone date for each phase of project (e.g., PID, PAED, PSE)
- Exclude Emergency Force Account projects as currently programmatically exempt (Sec 6.1, 2016 PPDG).
- Include signed SWDR date for each

Projects from North Region and Central Region were evaluated as pilot data to develop and validate the process.

After the presentation, PD-SWAT members supported the recommendations and new methodology to this report.

Stormwater Design prepared an Excel spreadsheet with the SWDRs to be evaluated based on the methodology outlined above to the Districts. Each District returned the completed spreadsheets and results reported in Section 5.

5. Results

Table 5-1 summarizes the results for each District. A total of 307 PRSM projects (column B) were reviewed using the methodology presented in Section 4. Stormwater Design was able to use its database to locate 155 SWDRs of the PRSM projects. The Districts were responsible to locate the remaining projects. It was the Districts responsibility to make sure the SWDR was signed by an appropriate licensed person that attested to the technical information and data contained in the report.

Upon investigation by the District, some projects were removed or excluded (column C) as not requiring SWDRs. See Table 5-2 for explanations and project data.

After the removal of excluded projects the new total number of projects/SWDRs were reviewed (column D). Once the SWDRs were reviewed the projects without a valid SWDR were determined (column E). See Table 5-3 for explanations and project data.

The number of projects for each District with valid signed SWDRs are shown in column F and the % of SWDRs in compliance is noted in column G. Caltrans overall average % in compliance is 98.

Table 5-1. Summary of Overall SWDR Review Ratings						
A	B	C	D	E	F	G
District	Total PRSM Projects	Projects Removed/Excluded	New Total Projects/SWDRs Reviewed	Projects w/o valid SWDR	Valid Signed SWDRs	% Compliance
			B - C		D - E	F / D x 100
1	30	4	26	2	24	92
2	10	0	10	0	10	100
3	25	0	25	3	22	88
4	56	0	56	0	56	100
5	22	0	22	0	22	100
6	29	0	29	0	29	100
7	34	0	34	1	33	97
8	29	1	28	0	28	100
9	4	0	4	0	4	100
10	19	0	19	0	19	100
11	28	2	26	0	26	100
12	21	0	21	0	21	100
Total	307					

Table 5-2. Summary of Excluded Projects

DIST	EA	WORK DESCRIPTION	CTIPS PROGRAM CODE	COMMENTS
01	0B27U	REPAIR STORM DAMAGE		Combined EA for Construction. SWDRs reported under 01-0B270/01-0C241. Project to be excluded.
01	0E930	REALIGN & IMPROVE GEOMETRICS		Project is part of 01-43730. PSE scope included in that SWDR. Project to be excluded.
01	0G340	REPAIR SLIPOUT		Emergency FA. No SWDR Rqd. Project to be excluded. (MM: why isn't in CTIPS_PROGRAM_CODE [column BW]? How can we single this type of emergency project in the future?)
01	40281	REHABILITATE CULVERTS	20.XX.201.151	See 40280 for SWDR. Pulled off shelf for PSE SWDR still valid. Project to be excluded.
08	0J851	REPLACE BRIDGE (MONITOR BRIDGE)	20.XX.201.110	This project was to Establish Existing Planting (Plant Establishment). The parent project was 0J850 and the SWDR was signed on 8/14/2013. Project to be excluded.
11	41560	CHECKPOINT IMPROVEMENTS		This is a PEER permit for the Department of Homeland Security. This is a Border Patrol Checkpoint Improvement project. Caltrans was oversight. These types of projects don't have a signed SWDR and should be removed from the PPDG. Questionable for exclusion. The only reason given for not having a SWDR is that it is Caltrans oversight. The permit specifically provides that any work on our right of way meet our stormwater standards. How is this project any different than the projects in D-1 and D-3 that were CT oversight? Do CT standards not apply at Border Checkpoints?
11	2T043			2T043 is child EA in the network of the I-5 CMGC project EAs. This particular EA was established <u>only</u> to fund the CMGC contractor efforts to review and comment on a set of contract design plans being developed under a separate EA. There is no capital delivery product (PID, PA/ED nor PS&E) other than plan set review comments being developed under this EA. Therefore no SWDR is being developed under this EA. The SWDR was developed and approved under the parent EA.

Table 5-3. Summary of Projects without a Valid SWDR

DIST	EA	WORK DESCRIPTION	SWDR Signed	Comments
01	0C120	Repair Slipout		SWDR on file. Reported to HQ 2/1/14. Project delivered with a PAED SWDR
01	43730	BRIDGE REALIGNMENT & WIDENING		Checking. FHWA Project. They were supposed to provide a SWDR. None was prepared

03	1H360	Replace 1.5 miles of 8-inch diameter high pressure gas transmission pipeline beneath northbound Hwy 99		No SWDR Prepared
03	3F720	CONSTRUCT ROUNDABOUT-OVERSIGHT ONLY		SWDR prepared, but is inadequate and inaccurate and not signed by an authorized person.
03	4F590	Remove existing 10' soundwall and replace with a new 10' soundwall		PEER project. Local funded. No SWDR Prepared.
07	30690	PED OC BRIDGE & HWY WIDENING		Sent comments on SWDR to PE on 10/14/16. No response.

6. Stormwater Design Compliance Improvements

The ability to comply with stormwater design requirements continues to improve by updating existing guidance, training curricula for staff, and special provisions. Updating the methodology outlined in this report should improve the Stormwater Design Compliance process as detailed in the following subsection.

6.1 Conclusions and Findings

This FYs Evaluation Report focused on the question “Does every project have a signed SWDR at every phase (excluding emergency projects)?” is based on the methodology outlined in Section 2 and the results reported in Section 3.

This evaluation has determined that 98% of PS&E SWDRs for major projects are being properly reported. While this annual evaluation has determined that improvements can still be made Caltrans fulfills stormwater requirements throughout the project delivery process. This report adequately documents that Caltrans major project SWDRs are properly being accounted for.

Districts should report better tracking procedures for completed SWDRs using this methodology.

The following are specific areas of documentation that can be improved:

- Update Section 6.1 of the PPDG regarding projects that don't require a SWDR can be improved by adding the following:
 - Investigate and clarify which types of Oversight project do not require a SWDR. District 1, 3, and 11 each reported oversight projects that either did not have SWDRs or had inadequate SWDRs.
 - Open more regular communication with other Caltrans functions. Several of the projects not excluded without an adequate SWDR were due to Program Project Management being unaware that SWDR requirements applied to Local Agencies performing work on our right of way.

See Table 6-1 for a summary of District findings.

Table 6-1. Summary of District Findings	
D01	Of the two SWDRs missing one was missed based on the PM having a lot of minor projects for which they do not appear to be doing SWDRs right now. It would be interesting to see how many of these have been delivered and whether there have been any impacts to not doing the SWDRs. The other was from a FHWA designed and administered project. They just didn't do it. They are the Feds after all.
D02	No comment.

D03	All of the deficient SWDRs were special funded. There was a recent reorganization in the PMs and the new ones handling that program did not realize that the SWDR was a requirement. It has been fixed.
D04	No comments
D05	No comments
D06	No comments
D07	Missing SWDR was not signed off. PE did not return with final SWDR for signatures. Reason-unknown. 10 other SWDRs were signed off outside of FY 15/16.
D08	The one project that did not have a signed SWDR was a project that Established Existing Planting (Plant Establishment). The parent project 0J850 had a signed SWDR on 8/14/2013.
D09	All of our major SWDRs are accounted for, that doesn't mean that our SWDR process is necessarily going ideally. There are a few recurring problems that I see: 1) Preparing a SWDR is often one of the last things PEs attend to, so they tend to overlook some things and do not get the level of assessment that they should. Similar to Environmental, we need to find a way to get them engaged in Storm Water review sooner in the Design process. That would result in much better coordination with other functional units as well. 2) We may get a SWDR at PS&E, but we don't always get one at the earlier stages. This is most often the case with Maintenance projects, but not always. Unfortunately, the PS&E SWDR is sometimes inadequate as a result because it has not gotten the benefit of storm water evaluation in the earlier phases. 3) The PEs tend to be intimidated by the SWDR process in general, and by evaluating treatment in particular. More training on the PPDG and SWDR preparation would probably alleviate some of that.
D10	No comments
D11	Update PPDG - PEER projects don't have a signed SWDR and should be removed from the PPDG including CMAG projects like EA: 2T043.
D12	No comments

This report has been prepared as part of the design self-audit program conducted to ensure compliance with NPDES Permit requirements and adherence to the SWMP. Previous reports focused on PEs and others involved in the SWDR preparation which included on selection of Design Pollution Prevention, Construction, Treatment and Maintenance BMPs, as well as documenting knowledge and data gaps to ensure stormwater program improvements. Each FYs report showed the process works well.

6.2 Recommendations

In future audits we may want to include:

- signed SWDR date for each planning phase (PID & PAED) of the project,
- Minor A and B projects including service contracts,
- An assessment of future training needs

This will allow us to better answer the original question “Does every project have a signed SWDR at every phase (excluding emergency projects)”?

All documents that relate to the 2012 Permit are being revised accordingly and last year’s recommendations still apply with some edits and additions included.

- Require BMP footprint and contributing drainage area mapping be submitted with the calculations and require that the mapping be submitted with the SWDR, at all phases, for BMPs that generate treatment credit.
- Update the Plans Preparation Manual to show how treatment BMPs can be incorporated on the project plans.
- Update the SWDR examples to include the 2016 PPDG treatment documentation requirements which include the SWDR Summary Spreadsheet, TBMP plans, calculations, and contributing drainage area mapping for each BMP.
- Update all existing Caltrans approved Treatment BMP design guidance to support the 2016 PPDG.
- Prepare a new design guidance for DPP Infiltration Areas, including incorporating use of the Infiltration Tool.
- Provide new cost estimating procedures to assist the Department to track overall stormwater implementation costs.
- Submit to management a plan to track Construction Site and Treatment BMP costs that can be implemented.
- Update the Infiltration Tool to support the 2016 PPDG (e.g., Rv, new soil amendment types).
- Prepare NPDES Permit training for Project Managers, with the goal of training 100% of all Project Managers within 1-2 years.

See Table 6-2 for a summary of District recommendations.

Table 6-2. Summary of District Recommendations		
NR	a	Review Minor A and B projects
	b	Look at example projects to evaluate whether we should generate a programmatic exemptions.
	c	Working with Maintenance Coordinator to see if we can identify programs whose projects do not have a stormwater issue.....ever.....and work on getting them excluded.
D04		No comments
D05	a	Review project for all phases (PS&E, PAED and PID)
	b	Review service contracts (e.g., Maintenance and Demolition)
D06		No comments
D07		No comments
D08		Review Service Contracts (Landscape)
D09	a	Compare projects at all phases to see if SWDR process is being followed.
	b	Evaluate need to modify SWDR process for different types of projects? I like the idea of a programmatic exemption for certain types of projects that never generate storm water issues.
	c	Find a source of funding to provide training in the Districts on both the PPDG and SWDR preparation.
D10		No comments
D11		No comments
D12		No comments